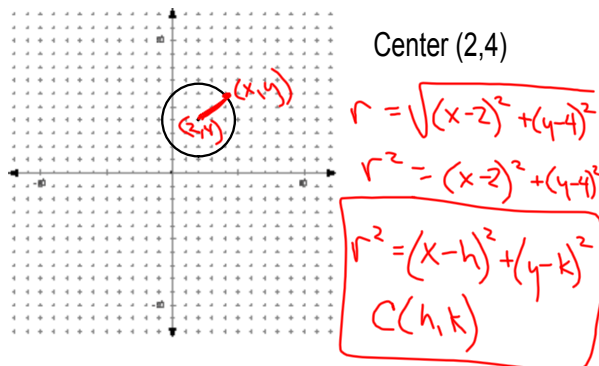


# 10-8 Equations of Circles



Write the equation of a circle with:  
C(3, -3) and d = 12

$$r^2 = (x-h)^2 + (y-k)^2$$

$$36 = (x-3)^2 + (y+3)^2$$

Write the equation of a circle with:  
C(-12, -1) and r = 8

$$64 = (x+12)^2 + (y+1)^2$$

Write the equation of a circle with:

Diameter endpoints  $(-3, -2)$  and  $(9, 4)$

Midpoint Formula  
to get center

$$C\left(\frac{-3+9}{2}, \frac{-2+4}{2}\right)$$

$$C(3, 1)$$

$$r^2 = (x-3)^2 + (y-1)^2$$

Plug in  $(9, 4)$

$$r^2 = (9-3)^2 + (4-1)^2$$

$$36 + 9$$

$$r^2 = 45$$

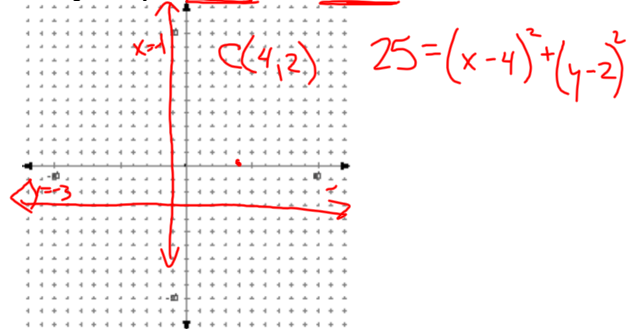
$$45 = (x-3)^2 + (y-1)^2$$

Write the equation of a circle with:

- Center in quadrant I

- $d = 10$

- tangent to  $y = -3$  and  $x = -1$

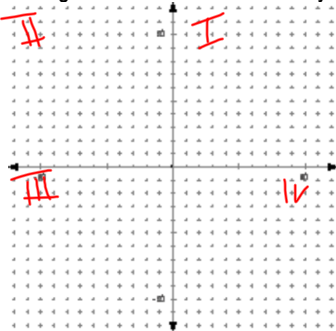


Write the equation of a circle with:

- Center in quadrant I

- $r = 5$

- tangent to both the x-axis and y-axis



Write the equation of a circle with:

$C(4, 2)$  and a point on the circle  $(8, -1)$

$$r^2 = (x-h)^2 + (y-k)^2$$

$$r^2 = (x-4)^2 + (y-2)^2$$

$$= (8-4)^2 + (-1-2)^2$$

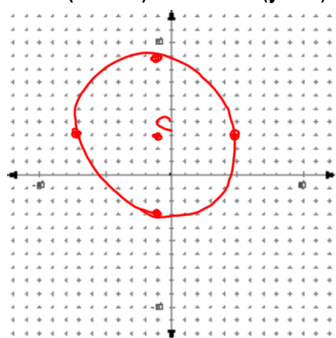
$$16 + 9$$

$$r^2 = 25$$

$$25 = (x-4)^2 + (y-2)^2$$

Graph the following circle:

$$36 = (x + 1)^2 + (y - 3)^2$$



HW

p578

14, 16-20, 23, 24, 28, 32